

WHAT IS CLAIMED IS:

1. A method of identifying a nucleic acid ligand to a lactamase, comprising:
 - (a) preparing a candidate mixture of nucleic acids;
 - (b) contacting the candidate mixture of nucleic acids with the lactamase enzyme, to form an candidate-enzyme mixture;
 - (c) increasing the stringency of the candidate-enzyme mixture to a predetermined salt concentration, wherein a target nucleic acids have an increased affinity to the lactamase relative to the candidate mixture at the predetermined salt concentration whereby the target nucleic acids may be partitioned from the remainder of the candidate mixture;
 - (d) partitioning the target-nucleic acids from the remainder of the candidate mixture; and
 - (e) amplifying the target nucleic acid to yield a pool of nucleic acids enriched with target nucleic acid sequences with relatively higher affinity and specificity for binding to the lactamase, whereby nucleic acid ligand of the lactamase may be identified.
2. The method of claim 1, further comprising:
 - (f) repeating steps (c), (d), and (e).
3. The method of claim 1, wherein the lactamase comprises a class B lactamase.
4. The method of claim 1, wherein the class B lactamase comprises a B anthracis metallo- β -lactamase
5. The method of claim 4, wherein the metallo-lactamase comprises a *B. cereus* 5/B/6 metallo- β -lactamase.
6. The method of claim 4, wherein the metallo-lactamase comprises a *B. cereus* 569/H/9 metallo- β -lactamase.

7. The method of claim 1, wherein the nucleic acid ligand comprises a single stranded nucleic acid.
8. The method of claim 7, wherein the single stranded nucleic acid comprises deoxyribonucleic acids.
9. The method of claim 1, wherein the salt concentration is in a range of about 10mM to about 50mM.
10. The method of claim 1, wherein the candidate mixture of nucleic acids is in a range of about 1.5 μ M to about 3.0 μ M.
11. The method of claim 1, wherein the lactamase is in a range of about 1.5 μ M to about 20 μ M.
12. A method of identifying a nucleic acid ligand to a lactamase, comprising:
 - (a) preparing a candidate mixture of nucleic acids;
 - (b) contacting the candidate mixture of nucleic acids with the lactamase enzyme, to form an candidate-enzyme mixture;
 - (c) heating the candidate-enzyme mixture to a predetermined temperature, wherein a target nucleic acids have an increased affinity to the lactamase relative to the candidate mixture at the predetermined temperature whereby the target nucleic acids may be partitioned from the remainder of the candidate mixture;
 - (d) partitioning the nucleic acid ligand from the remainder of the candidate mixture; and
 - (e) amplifying the target nucleic acid to yield a pool of nucleic acids enriched with target nucleic acid sequences with relatively higher affinity and specificity for binding to the lactamase, whereby nucleic acid ligand of the lactamase may be identified.
13. The method of claim 12, further comprising:
 - (f) repeating steps (c), (d), and (e).

14. The method of claim 12, wherein the lactamase comprises a class B lactamase.
15. The method of claim 14, wherein the class B lactamase comprises a metallo- β -lactamase.
16. The method of claim 15, wherein the metallo-lactamase comprises a *B. cereus* 5/B/6 metallo- β -lactamase.
17. The method of claim 15, wherein the metallo-lactamase comprises a *B. cereus* 569/H/9 metallo- β -lactamase.
18. The method of claim 12, wherein said candidate mixture of nucleic acids comprises a single stranded nucleic acid.
19. The method of claim 18, wherein the single stranded nucleic acid comprises deoxyribonucleic acid.
20. The method of claim 12, wherein the salt concentration is in a range of about 10mM to about 50mM.
21. The method of claim 12, wherein the candidate mixture of nucleic acids is in a range of about 1.5 μ M to about 3.0 μ M.
22. The method of claim 12, wherein the lactamase is in a range of about 1.5 μ M to about 20 μ M.
23. A composition of matter comprising: a nucleic acid ligand to a lactamase.
24. The composition of claim 23, wherein the lactamase comprises a class B lactamase.
25. The composition of claim 24, wherein the class B lactamase comprises a metallo- β -lactamase.

26. The composition of claim 25, wherein the metallo-lactamase comprises a *B. cereus* 5/B/6 metallo- β -lactamase.
27. The composition of claim 25, wherein the metallo-lactamase comprises a *B. cereus* 569/H/9 metallo- β -lactamase.
28. The composition of claim 23, wherein said candidate mixture of nucleic acids is comprised of a single stranded nucleic acid.
29. The composition of claim 28, wherein the single stranded nucleic acid comprises deoxyribonucleic acid.
30. A composition of matter comprising: a nucleic acid ligand with affinity toward a lactamase.
31. The composition of claim 30, wherein the lactamase comprises a class B lactamase.
32. The composition of claim 31, wherein the class B lactamase comprises a metallo- β -lactamase.
33. The composition of claim 32, wherein the metallo-lactamase comprises a *B. cereus* 5/B/6 metallo- β -lactamase.
34. The composition of claim 32, wherein the metallo-lactamase comprises a *B. cereus* 569/H/9 metallo- β -lactamase.
35. The composition of claim 30, wherein the nucleic acid ligand comprises a single stranded nucleic acid.
36. The composition of claim 35, wherein the single stranded nucleic acid comprises deoxyribonucleic acid.
37. A composition of matter comprising a nucleic acid ligand with SEQID# 4.

38. The composition of claim 37, wherein the nucleic acid ligand inhibits a lactamase.
39. The composition of claim 38, wherein the lactamase comprises a class B lactamase.
40. The composition of claim 39, wherein the class B lactamase comprises a metallo- β -lactamase.
41. The composition of claim 40, wherein the metallo-lactamase comprises a *B. cereus* 5/B/6 metallo- β -lactamase.
42. A composition of matter comprising a nucleic acid ligand with SEQID# 5.
43. The composition of claim 42, wherein the nucleic acid ligand inhibits a lactamase.
44. The composition of claim 43, wherein the lactamase comprises a class B lactamase.
45. The composition of claim 44, wherein the class B lactamase comprises a metallo- β -lactamase.
46. The composition of claim 45, wherein the metallo-lactamase comprises a *B. cereus* 5/B/6 metallo- β -lactamase.
47. A composition of matter comprising a nucleic acid ligand with SEQID# 6.

The entire content of each of the following patents and publications are hereby incorporated by reference herein.

U.S. PATENT DOCUMENTS

US Patent 5,637,459 entitled "Systematic Evolution of Ligands by Exponential Enrichment: Chimeric Selex" issued on June 30, 1998 with Burke et al., listed as inventors.

US Patent 5,773,598 entitled "Systematic Evolution of Ligands by Exponential Enrichment: Chimeric Selex" issued on June 30, 1998 with Burke et al., listed as inventors.

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